

THE INSECT PEST SURVEY BULLETIN

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OUTSTANDING ENTOMOLOGICAL FEATURES IN THE UNITED STATES FOR MAY, 1924

The weather over the Eastern and Central States has been very unusual, the spring being very backward and precipitation being much in excess of normal.

Chinch bug development has been materially reduced over the greater part of the belt, but present indications are that serious infestations will cover southwestern, west-central, and central Missouri, eastern Kansas, southern Nebraska, southeastern Iowa, and northeastern, central, and south-central Oklahoma, with possible bad outbreaks in southern Illinois and Indiana.

A serious grasshopper outbreak covers entire east-central Texas and southern Oklahoma.

The Hessian fly infestation is reported as very light in Ohio and Iowa, with conditions about the same as last month in Missouri and Nebraska. In Kansas the conditions resulting in severe damage last fall have been apparently relieved by the dry backward spring which prevailed in this region. In Oklahoma a few counties report serious infestation.

The army cutworm is occurring in a severe outbreak in the Judith River Basin in Montana, and general cutworm damage is reported from the lower Mississippi Valley region and Texas.

Unusual abundance of white grubs and heavy flights of beetles are reported from Iowa, Missouri, and Kansas.

The anomala Anomala orientalis Waterh., which was introduced into Connecticut several years ago and reported in Volumes 1 and 2 of this Bulletin, is apparently increasing. On several lawns at Westville larvae average 60 per square foot. It will be recalled that this pest occasioned much concern among the sugar planters in Hawaii several years ago and was finally controlled by an introduced scoliid wasp.

The corn earworm has destroyed as high as 75 per cent of the early beans in parts of Mississippi.

The Colorado potato beetle is more troublesome than usual over the extreme southern States, reports of serious damage coming from Georgia, Florida, Mississippi, and Texas.

A very remarkable flight of the painted lady butterfly is recorded from California, estimates running into the billions of individuals. This has been followed by a serious outbreak of caterpillars which are attacking garden plants of all kinds.

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The apple aphids in general seem to be very much below normal in abundance in the Eastern States, whereas the apple tent caterpillar is unusually abundant over the New England, Middle Atlantic, and East-Central States.

Pear thrips abundance is much below normal but the pear psylla is seriously abundant in the fruit belt of New York and is also abundant in New England.

A serious outbreak of a heretofore unimportant case-bearer, Coleophora sacramenta Heinrich, has developed on cherry in one locality in California; and a native weevil, Melanomphus sordidus Horn, has become a serious currant pest in this State.

An aphid, as yet not definitely determined, is attracting considerable attention in Florida as a citrus pest.

An interesting note comes from Porto Rico, where it is found that one of the cotton stainers is attracted in large numbers to pieces of the silk of C6iba, suggesting a possible remedial measure for the control of this pest.

The practice of using the same land for seed beds of tobacco year after year has resulted in rather serious damage in parts of Tennessee by the larvae of the green June beetle, which seem to be attracted by the litter used to protect these seed beds.

Both the gipsy moth and brown-tail moth seem to be somewhat less numerous over the old infested territory than they were last year.

Two cases of Rocky Mountain spotted fever have occurred in northern Colorado this spring.

OUTSTANDING ENTOMOLOGICAL FEATURES FOR CANADA. FOR MAY, 1924

Stem-mothers of the black cherry aphid occurred in large numbers in April on the opening buds of sweet cherries in the Niagara Peninsula, Ontario, and judging from their numbers in the orchards at present some trouble may be expected.

The European red mite is widely distributed in Nova Scotia. It has been noted from time to time in the past in various parts of the Annapolis Valley, N. S.

The raspberry cane maggot, Phorbia rubivora Coq., continues to be a pest of considerable importance to logan berries and raspberries at Victoria, B. C. Adults commenced to emerge on March 22 this year, the earliest date on record.

The rose scale, Aulacaspis rosae Bouche which has occurred in the lower Fraser Valley of British Columbia in raspberry plantations for many years, is now reported as causing considerable alarm among small fruit growers in that locality.

The green apple aphid is more abundant on apple trees this season in southwestern Ontario than it has been for several years.

The leaf miner Gracilaria elotella Busck has been very conspicuous on the young wood of apple trees along the shores of Lake Ontario from Toronto to the Niagara River. The health of the trees, however, apparently has not been affected.

The winter mortality of the cabbage flea-beetle, Phyllotreta albionica Lec., at Agassiz, B. C., has been about 10 per cent, slightly higher than similar records of the pest. The winter was decidedly wet, with the spring breaking much earlier than usual.

The overwintering death rate of the European corn borer in eight of the most severely infested fields in the vicinity of Port Stanley, Ontario, was 13.05 per cent as against 6.04 per cent last year.

Tent caterpillar outbreaks are being reported from the interior sections of British Columbia and from several points in southern Saskatchewan. In the humid transitional area between Sicamous and Revelstoke, aspen poplar twigs, 1 foot in length showed 7 to 10 egg masses on them this spring. Caterpillars hatching between April 7 and 12 were, at the end of May, very conspicuous.

An outbreak of the spruce budworm, Tortrix funiferana Clem., has taken place in the Quetico district of western Ontario. White pine in the same district is being attacked by borers belonging to a species of Monochamus.

CEREAL AND FORAGE - CROP INSECTS

GENERAL FEEDERS

GRASSHOPPERS (Acridiidae)

- Oklahoma E. E. Feholl (May 17): We have just had a request from Carter County for immediate assistance in putting on a grasshopper campaign. The report stated that grasshoppers are present by the millions and are just large enough now to travel and become very destructive. Control work will be started early next week.
- Texas F. L. Thomas (May 21): The most important feature of insect activity is the grasshopper outbreak which is now in the fourth week of its occurrence and covers nearly the entire east-central portion of the State. A great deal of poisoned bait is being distributed in the various counties.
- F. C. Bishopp (May 24): Grasshoppers were reported as appearing in considerable numbers in the bottom lands in Dallas County on May 20. The young hoppers were doing some damage to young cotton, which is markedly later than normal this year.
- Washington E. J. Newcomer (May 20): An outbreak of grasshoppers has been reported in Okanogan County. This is similar to previous outbreaks in that section but may be more serious, owing to increased plantings of fruit trees.

CUTWORMS (Noctuidae)

- Mississippi H. W. Allen (May 23): Nearly full-grown caterpillars are generally distributed on clovers, cabbage, bean, potato, etc., without causing much apparent damage. They are most abundant under heavy growth of clover in damp soil, where 30 or more to a square yard can be readily found.
- Missouri L. Haseran (May 22): Several species are very abundant, though no complaints of serious damage have come in as yet.
- Texas F. C. Bishopp (April 15): Cutworms are causing considerable loss to gardens in Dallas and vicinity, being especially injurious to tomatoes and other plants recently set out.
- Montana W. C. Cooke (May 12): We have reports of a rather severe outbreak of the army cutworm, Chorisaenotus auxiliaris, in the Judith Basin district in central Montana. Several hundred acres have been affected to date and it has been impossible for us to check up on the abundance of the larvae. The species seem to be about two weeks later this season than usual, which is rather exceptional as the spring season has been slightly earlier than usual.

WHITE GRUBS (Phyllophaga spp.)

- Delaware C. O. Houghton (May 6): An enormous swarm of Phyllophaga tristis Fab. was observed in flight on the evening of May 6 at McClellandsville. Mr. Seidel, the observer, reported that there were millions of them and that they weighted down the raspberry bushes upon which they settled. He said that they could be gathered by the handful anywhere upon a large area of the bushes. No injury was observed, and they were all gone the next morning. (This species is known to feed especially upon oak!)
- Iowa H. E. Jaques (May 9): From all indications Brood A of the white grubs threatens to be fully as serious in its damage in southeastern Iowa this year as it was in 1921. It would seem from the early inquiries and observations that I have made that it may be extending its area of infestation westward. Grubs have been showing up abundantly in the spring plowing.
- Missouri L. Haseman (May 22): White grubs are very abundant and a heavy crop of adult beetles came out the first half of the month.
- Kansas J. W. McColloch (May 20): White grubs have killed out a large area of blue-grass sod in a cemetery at Alva.
- CORRECTION: J. J. Davis (May 24): On page 50, Volume 4, No. 2, of the Insect Pest Survey Bulletin, Lachnosterna arcuata Smith should be Lachnosterna vehemens Horn.

WIREWORMS (Elaterridae)

- New Jersey T. J. Headlee (May 1): I am sending some wireworms (Melanotus sp.) which are troublesome in cultivated lands. These lands are in the hands of market gardeners and are more or less constantly under cultivation.
- Nebraska M. H. Swenk (April 20-May 15): In spite of the cool, backward spring wireworms have not been much complained of to date in the earliest planted corn. Such trouble may develop later, however.

WHEAT

HESSIAN FLY (Phytophaga destructor Say)

- Ohio T. H. Parks (May 20): Wheat in the central and southern counties is almost free from the Hessian fly. Only with difficulty could eggs be found. Early sowed wheat in 3 northeastern counties had a medium infestation May 1. Much winterkilling of wheat has occurred except in northwestern counties.
- Iowa Carl J. Drake (May 26): Hessian fly is on the decrease in the State. The campaign of 1923 owes its success to the cooperating farmers who put off drilling until the fly-free date was predicted.

Of the 52 Counties cooperating in 1923 over 90 per cent of the farmers in Adams, Appanoose, Boone, Carroll, Cass, Cedar, Dallas, Des Moines, Fremont, Guthrie, Henry, Jasper, Lucas, Mills, Monroe, Montgomery, Page, Polk, Pottawattamie, Taylor, Wapello, Warren, and Woodbury put off seeding until after the fly-free date was established. The flaxseed count enabled us to predict accurately the fly-free date.

The spring brood of flies began to emerge in the early seeded fields in April. Fred Butcher, Extension Entomologist, is conducting a Hessian fly observation station at Emerson, Mills County, in order to determine the period of emergence of the spring brood. The dry and cold weather this spring killed a large number of flies in the flaxseed. The larvae pupated successfully but the adults died before breaking through the flaxseed. The percentage of dead forms is very large but only a small percent of the larvae are parasitized.

Missouri

L. Haseman (May 22): The Hessian fly situation is not materially changed from the earlier report. Most farmers are centering their attention on the chinch bug in wheat, though we will have some Hessian fly damage undoubtedly.

Nebraska

M. H. Swenk (April 20-May 15): During the period covered by this report adults of the Hessian fly have been emerging from the overwintered flaxseeds. Examination of material on May 2 from Dodge County and on May 5 from Saunders County indicated that the great bulk of the flies had not as yet emerged.

Kansas

J. W. McCulloch (May 2): This report represents the damage to wheat last fall; 9,761,085 acres were sown to wheat in the fall of 1923 and 633,613 acres, or 6.5 per cent, show fly damage. Of the 633,613 acres showing injury 128,481 acres, or 20.3 per cent, will be a complete failure. (May 21): The Hessian fly has not proved as serious this spring as was anticipated. This is probably due to the dry, cold spring which is holding everything back. The principle damage so far this spring has been reported in the eastern third of the State. No damage has been reported from northwestern Kansas where the fly was so abundant last fall.

Oklahoma

E. E. Scholl (May 17): In the counties of Ottawa and Craig a number of wheat fields show such heavy Hessian fly damage that they will be plowed under and, at the suggestion of the county agent, such crops as cowpeas and soy beans will be planted.

CHINCH BUG (Blissus leuconterus Say)

Illinois

W. P. Flint: The weather of the past month has been very cool and but little egg laying has taken place. The rainfall has been about normal but on the whole weather conditions have been unfavorable to this insect. They have not been sufficiently adverse to cause any great reduction in the number of chinch bugs in fields.

- Iowa Carl J. Drake (May 28): The chinch bug occurs in alarming numbers in Clarke, Lucas, Monroe, Wapello, Jefferson, Henry, Des Moines, Decatur, Wayne, Appannoose, Davis, Van Buren, and Lee Counties. Most of the adults seem to have passed through the winter successfully.
- Missouri L. Haseman (May 22): Chinch bugs are particularly serious throughout southwest, west-central, and central Missouri. A conference called for the 24th at Kansas City will deal largely with our summer program in this and surrounding States for chinch bug control. If the weather continues favorable we are certain to have a big summer chinch bug problem.
- Nebraska M. H. Swenk (April 20-May 15): During the second week in May the chinch bug was reported as having put in an appearance in abundance in the small grain fields of Pawnee and southern Gage Counties.
- Kansas J. W. McCulloch (May 21): Chinch bugs are now abundant in fields of small grain in the eastern half of Kansas. Some farmers report crops being severely injured. The weather has been very dry and temperatures much below normal.
- Oklahoma E. E. Scholl (May 17): Chinch bugs are now beginning to do a great deal of damage in the northeastern part of the State and are just beginning to get active in the south-central part also. A number of chinch bug eggs were found but the hatching is very slow on account of the cold weather.

WHEAT STRAWWORM (Hamolita grandis Riley)

- Kansas J. W. McCulloch (May 16): A sample of wheat from Colby was examined today which had 15 per cent of the tillers infested.

GREAT-PLAINS FALSE WIREWORM (Eleodes opaca Say)

- South Dakota H. C. Severin (May 14): Our spring has been extremely late and, therefore, the injury by Eleodes, probably E. opaca, will continue for several weeks at Groton.

LEAFHOPPERS (Jassidae)

- Texas F. C. Bishopp: During the latter part of March and the first half of April leafhoppers were reported from several localities in Dallas and Collin Counties as damaging winter grains. In some fields the nymphs are present in great swarms and all plants are showing the effect of their attack, many being completely killed. Some farmers plowed up their grain, fearing that it would not make a satisfactory crop.

CORN

CORN EARWORM (Heliothis obsoleta Fab.)

- Georgia O. I. Snapp (May 13): The first adult of the season was captured in the field at Fort Valley today.

ARMYWORM (Cirphis unicolor Haw.)

- Virginia Herbert Spencer (May 27): There is a pronounced outbreak of armyworms in the Norfolk section, with considerable damage to alfalfa and corn. There have been many calls for assistance at the Virginia Truck Experiment Station.
- Indiana J. J. Davis (May 24): The first adults were observed at Lafayette May 7. We have observed them rather frequently at lights during the month.
- Illinois W. P. Flint: Adults of this species are abundant in central and southern Illinois. They have been on the wing every night for more than a month when the temperature has been sufficiently high to promote insect activity.

FALL ARMYWORM (Laphygna frugiperda S. & A.)

- Louisiana T. E. Holloway and W. E. Haley (May 15): A field of young corn near New Orleans was noted in which practically every plant was more or less injured by this insect. Moths as well as larvae of various sizes were present.

FALSE CHINCH-BUG (Nysius ericae Schill.)

- Arizona V. L. Wildermuth through Geo. A. Dean: There has been a rather serious outbreak of the false chinch-bug in the Salt River Valley during the past two weeks. These bugs have been injuring a great variety of cultivated crops which happen to be growing adjoining waste places where they were able to breed up in considerable numbers upon various weeds, the chief of which was probably wild mustard. The crops damaged have been corn, cotton, and garden varieties.

BILLBUGS (Sphenonchorus spp.)

- Georgia D. K. Young (April 19): Sphenonchorus cullosus Oliv. is reported as doing severe damage in a few cornfields at Camilla. This is the first report of the season.
- Missouri L. Haseman (May 22): Corn billbugs are reported from west-central Missouri as abundant.

ALFALFA AND CLOVER

PEA APHID (Illinoia pisi Valt.)

- Wisconsin J. E. Dudley, Jr. (May 24): There appears to be a more general infestation of both aphids and natural enemies than last year. In one or two fields coccinellids are particularly numerous. Clover and alfalfa are being attacked in Columbia County.

Kansas J. W. McCulloch (May 2): Pea aphids are severe on a 15-acre field of alfalfa in Lincoln County.

MARCH FLIES (Bibio sp.)

Ohio H. A. Gossard (May 20): On May 9 Bibio albinennis was received from Celina and on May 25 larvae of some Bibio, probably this species, were sent us from Hubbard, the larvae having been found in the vegetable garden, where they were probably feeding on manure.

Nebraska M. H. Swenk (April 20-May 15): In Buffalo County injury to alfalfa roots by the larvae of March flies, Bibionidae, was reported during the last week in April.

CLOVER-LEAF WEEVIL (Hypera punctata Fab.)

Indiana J. J. Davis (May 24): A few inquiries and reports of abundance were received early in May for the southern end of the State, but fewer than usual.

LESSER CLOVER-LEAF WEEVIL (Phytonomus nigricostis Fab.)

Ohio T. H. Parks (May 20): Newly hatched larvae are now abundant in the buds under leaf stipules of red clover at Columbus. The insect promises to continue as the most serious pest of red clover in western Ohio.

GRASS

GREEN JUNE BEETLE (Cotinis nitida L.)

Indiana J. J. Davis (May 24): Cotinis nitida grubs have been reported as annoying in lawns and plant beds at Maryville April 15 and Terre Haute May 3.

ANOMALA (Anomala orientalis Waterh.)

Connecticut Philip Garman (May 22): At Westville, New Haven County, several lawns contain 60 or more grubs per square foot. They are increasing in numbers.

SIX-SPOTTED LEAFHOPPER (Cicadula 6-notata Fau.)

Iowa C. N. Ainslie (May 20): I never have seen this species so numerous as it is this spring. At Sioux City these jassids fly in swarms as one crosses on the lawn or jars almost any plant or shrub.

TRUCK - CROP INSECTS

POTATO AND TOMATO

COLORADO POTATO BEETLE (Leptinotarsa decemlineata Say)

- Georgia O. I. Snapp (May 10): The potato beetle has been playing havoc in some gardens in Fort Valley, while in others scarcely an individual can be found.
- Florida F. S. Chamberlin (May 8): The potato bug is more numerous and is doing more damage in Greenville section than is usually the case.
- Mississippi H. W. Allen (May 23): Wherever spraying has not been undertaken heavy damage has been caused to potatoes, to the extent of total defoliation in many cases. In one patch of tomatoes, in Oktibbeha County, of about one-tenth acre, defoliation of the newly set plants by adults was moderate to heavy and resulted in destruction of some plants.
- Texas F. C. Bishopp (April 15): Adult potato beetles were appearing in considerable numbers. (April 18): Some spraying of potatoes with arsenicals is being done. (April 22): Where spraying had not been done the first brood of potato beetle larvae is doing serious damage

POTATO FLEA-BEETLE (Epitrix cucumeris Harr.)

- South Carolina J. A. Berly (May 12): Flea-beetles have been very abundant on tomato and potato plants in the gardens at Clemson College.

SEED-CORN MAGGOT (Hylemyia cilicrura Rond.)

- North Carolina Franklin Sherman (May 26): As in the past several years there were reports of local damage from several coastwise counties during April and early May, but none have been received recently.

CABBAGE

CABBAGE MAGGOT (Hylemyia brassicae Bouche)

- New York L. C. Tyler (May 3): Flies were observed on April 29 in Nassau County and are now depositing eggs.
- H. B. Davis (May 2-3): Maggot flies were observed in some of the fields of early cabbage in Suffolk County.
- Indiana J. J. Davis (May 24): The cabbage and radish maggot was reported first this spring on radishes from Fort Wayne May 19. The maggots were small in all cases.

STRAWBERRY

STRAWBERRY LEAF-BEETLE (Paria canella Fab.)

New York C. C. Wagoner (May 4): Adults were found feeding on strawberry foliage in Ulster County.

ASPARAGUS BEETLE (Crioceris asparagi L.)

Massachusetts A. I. Bourne (May 23): As yet no specimens of either species of asparagus beetle have been discovered.

Delaware C. O. Houghton (May 2): At Newark beetles are just beginning to appear.

Maryland J. A. Hyslop (May 16): The common asparagus beetle is now present in large numbers on seeding asparagus plants at Avonel. Beetles are also doing some damage to sprouted tips in producing beds. Egg laying is well under way.

Oregon Don C. Mote (April 22): At Woodbourn the beetles are fairly abundant in 1 acre along the edge of field of 9 acres of asparagus. Eggs are being deposited. (May 8): The beetles are attacking asparagus at Corvallis.

BEANS

MEXICAN BEAN BEETLE (Eolachna corrupta Muls.)

Georgia O. C. Boyd (April 23): This is the first report of this pest sent to this office. General infestation reported medium on snap bush beans at Thomasville.

J. B. Gill (May 23): The first overwintering adult of the Mexican bean beetle was observed on April 16 at Thomasville. On May 2 the first egg mass was seen in the field, this being deposited on the foliage of snap beans. Thus far no serious damage to beans has been observed or reported from this section.

BEAN LEAF-BEETLE (Cerotoma trifurcata Foerst.)

South Carolina J. A. Berly (May 12): This pest has been very abundant this spring on young snap beans at Clemson College.

Georgia O. C. Boyd (April 23): This is the first report this year being sent to the Atlanta office. The general infestation is reported as medium.

Ohio H. A. Gossard (May 20): Cerotoma trifurcata were taken at Gallipolis on Tennessee green-pod beans, where they were doing serious damage.

Mississippi H. W. Allen (May 23): Young bean plants were heavily attacked by adult beetles in several small patches of string beans in the locality of A. & M. College at the end of April and the beginning of May. About one beetle to every leaf; defoliation about 25 per cent, growth retarded. Beetles are now fewer in numbers and the damage is being rapidly repaired.

CORN EARWORM (Heliothis obsoleta Fab.)

Mississippi R. P. Colmer (May 16): The beans in some fields at Pascagoula average a loss of 75 per cent. Tomatoes are not damaged badly.

PEAS

PEA APHID (Illinoia pisi Kalt.)

Delaware J. F. Adams (May 20): Aphids were observed at Seaford April 30. At the present time, 3 weeks later, they have apparently increased but little in numbers. The cold, wet weather has undoubtedly been an important factor.

Utah Geo. F. Knowlton (May 27): Indications are that this will be a serious pest in Cache County this year. Last year they destroyed most of the sweet peas that were being raised for seed purposes.

CUCUMBERS

STRIPED CUCUMBER BEETLE (Diabrotica vittata Fab.)

Massachusetts A. I. Bourne (May 23): A report by Prof. Koon of injury by the cucumber beetle to cucumbers in greenhouses in Baldwinsville, which is in northern Worcester County, is received. The particular damage is caused by the wilt following the attacks of the beetles. It appears that squashes and cucumbers were grown near the house last year, and in all probability the beetles hibernated in the greenhouses and were then at hand to attack the young cucumbers early in April. His estimate of the losses due to the wilt was 25 per cent of the crop.

Mississippi J. E. McEvilly (May 7): Seedling plants have been attacked by the larvae of this pest at Summit. Adults are appearing in great numbers. Nicotine dusting and spraying are being practiced.

H. W. Allen (May 23): In two home gardens 3 miles apart in Oktibbeha County no adults have been seen. In one containing squash, cucumber, and cantaloupe, in which a very heavy infestation developed last season, not a single beetle has been found this season though the plants have been present more than a month.

TWELVE-SPOTTED CUCUMBER BEETLE (Diabrotica 12-punctata Oliv.)

Georgia J. D. More (March 17): Plants are young. Injury is moderately severe on Johnson beans at Valdosta.

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J. W. Ingram (May 9): Many gardens at Crowley have suffered serious injury from the attack of the adult of this beetle. They are present in unusually large numbers in this section this year on beans and other garden plants.

COMMON RED SPIDER (Tetranychus telarius L.)

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A. I. Bourne (May 23): The common red spider on cucumbers has been reported as doing considerable damage in certain of the greenhouses in the Market Garden district around Boston. Specific estimate of damage to one house in Mansfield places the figure at 25 per cent of the crop. In another house in Woburn this insect is credited with causing approximately a 10 per cent loss.

ROOT-KNOT NEMATODE (Heterodera radicola Greef-Mueller)

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A. I. Bourne (May 23): The root-knot nematode has been reported to this office by Prof. Koon, in charge of the Market Garden Field Station, who has found it to be rather prevalent in greenhouses throughout the suburban districts of Boston. A conservative estimate places the damage to cucumbers at from 5 to 10 per cent, in different ranges.

RHUBARB

A DOCK BEETLE (Gastroidea caesia Rogers)

Don C. Mote (April 18): This insect is reported as doing considerable damage to leaves of rhubarb near Uxvallis, eating holes in the leaves. The beetle is quite common now on dock.

MISCELLANEOUS FEEDERS

BUMBLE FLOWER BEETLE (Euphoria inda L.)

H. A. Gossard (May 20): Euphoria inda, taken alive at Niles, was sent to us and May 11 a beetle of the same insect, taken alive, was received from Gates Mill where it was found in a vegetable garden.

A FALSE WIREWORM (Eleodes tricostata Say)

EE C. Bishopp: These beetle larvae were found to be destroying plants and gardens to a considerable extent. Young beets, radishes, kohlrabi, and tomatoes were being cut off by them.

SOVBUGS (Crustacea)

F. C. Bishopp (April 25): These crustaceans are extremely abundant in flower and vegetable gardens, especially in low ground. They are causing considerable damage to seedlings of flowers and vegetables at Dallas and vicinity.

CLAY-BACKED CUTWORM (Feltia gladiaria Morr.)

Ohio

H. A. Gossard (May 20): May 16 cutworms of the species Feltia gladiaria were received from South Euclid, where they were doing heavy damage in hotbeds.

PAINTED LADY BUTTERFLY (Vanessa cardui L.)

California

E. A. McGregor: Continuing from April 11 to 13, inclusive, there was a remarkable migration of this butterfly. All through the day there was a continual flight of these insects. Roughly it was estimated that there were an average of about 300 butterflies per acre at a given moment. The flight direction appeared to be from the southeast to the northwest, and it would seem that the source of the migration was either the foothills of the Sierras or the Sierras proper.

In travelling, the flight was not characteristic of butterflies in general, but was of a more steady and purposeful nature. During calm intervals the flight took place on an average of perhaps 10 or 20 feet altitude, but during periods of windiness the butterflies flew very close to the ground. There appeared to be no attempt toward pairing and the individuals flew well separated -- possibly 10 feet apart on an average. It was very noticeable that they all pursued their flight in the same direction. It was rarely that individuals were seen to alight on vegetation, but this they did at times.

The above flight occurred during the warmest period yet experienced this season, temperature maximums ranging from 80 to 88° F. The temperature suddenly dropped late on the afternoon of the 13th, accompanied by a chilly wind, and the flight was suddenly terminated. On the 15th the temperature rose again but a gusty wind occurred so that only a very few individuals could be seen migrating.

An attempt to estimate the number of individuals comprising this 3-day migration is here presented. The flight was established to be equally dense at Sunland, Porterville, Strathmore, Lindsay, Exeter, Visalia, Woodlake, and Lemon Cove. This shows the flight to have been at least 40 miles in width (it no doubt was much wider). The daily duration of the migration was at least 12 hours, or a total for the three days of 36 flight hours for any given point.

Now the rate of travel was estimated at about 12 miles per hour, which would give to the flight a total dispersion length of 432 miles for the 3 days. Within such a zone (40 miles wide by 432 miles long) is contained about 17,280 square miles or 11,059,200 acres. With an estimated occurrence of about 300 butterflies per acre, it is readily computed that at least 3,000,000,000 had passed in the 40-mile-wide zone between Sunland and Lemon Cove.

If more data were available regarding the width of the flight, it undoubtedly could be shown that the population of this interesting migratory flight much exceeded the above estimate.

R. E. Campbell (May 10): Following an extended and heavy northerly flight of the painted lady butterfly the hairy caterpillars began to appear on weeds, mostly malva, thistle, and nettles. As these

were consumed, died, or were plowed up, the caterpillars began to migrate to other vegetation, including garden plants of all kinds, but particularly lettuce, radishes, potatoes, and beets, as well as some flowers. In some cases following the plowing of orchards, the foliage of young orange trees was attacked. At one place in Ventura County the caterpillars were so numerous that they assumed the armyworm habit, and thousands began migrating, necessitating the construction of trench barriers to protect near-by crops. Great quantities of worms were killed by running an automobile with the wheels on one side in the bottom of the furrow.

The flight and succeeding infestation covered the entire area of southern California as far north as San Luis Obispo. Newspapers carried reports of flights so heavy that motorists were compelled to stop their cars and brush the butterflies off their radiators.

FRUIT INSECTS

APPLE

SNOW-WHITE LINDEN MOTH (Ennomos subsignarius Hbn.)

- Indiana H. F. Dietz (May 23): The eggs of the snow-white linden moth started hatching about May 5. However, during the cold spell the caterpillars do not look normal. They appear to be starved and many of them have not been able to move out to the leaves. Just what effect this will have on the expected outbreak of this insect for the coming season I do not know.
- J. J. Davis (May 24): Eggs of the snow-white linden moth on apple were received from Portland on April 11.

APHIDIDAE

- Massachusetts A. I. Bourne (May 23): Apple aphids are considerably less abundant than normally.
- Pennsylvania S. W. Frost (May 19): The rosy, green, and grain aphids do not appear to be numerous this season on apple.
- Michigan R. H. Pettit (May 14): Plant-lice are appearing in the orchards, the eggs having mostly hatched by this time, in the southern part of the State at least.

GREEN APPLE APHID (Aphis pomi DeG.)

- Connecticut M. P. Zappe (May 22): Quite a number of aphids hatched but practically all of them have died in the vicinity of Milford, New Haven, Hamden, and Cheshire.
- Mississippi H. W. Allen (May 23): Young shoots of both the young and the bearing trees heavily stocked, leaves curling, growth retarded. Report based on examination of about 7 acres of orchard.

Utah George F. Knowlton (May 6): Aphis pomi DeG. are very numerous in many apple orchards in Cache Valley; notwithstanding the cold weather on April 25 and 26, which destroyed many nymphs, and shriveled up a large percentage of the eggs.

APPLE-GRAIN APHID (Rhopalosiphum prunifoliae Fitch)

New York G. E. R. Pervey (April 19): They have been hatching for the past week in Dutchess County and are now clustered on the opening buds.

Ohio H. A. Gossard (May 20): Aphis avenae hatched very plentifully around Wooster but was not abnormally plentiful and has caused no marked damage. The species is still present on apple but migrants are now developing, a few having acquired wings, and this species will probably not increase in numbers upon apple.

T. H. Parks (May 20): This is the only species of aphid that can be found on apple in central Ohio. It is not very abundant. Aphis pomi and Aphis sorbi are very scarce.

ROSY APPLE APHID (Myuraphis roseus Baker)

New York C. E. Crosby and assistants: In Dutchess County this insect was present in appreciable numbers. (April 26): Plenty of them were observed in Columbia County. (May 3): Abundant at Sodus on this date, while in Ulster County on May 10 they were observed in the curling leaves at this date.

Delaware J. F. Adams (May 15): Numerous at several places in South Delaware.

Maryland E. N. Cory (May 14): Generally delayed dormant sprays and the cluster sprays with nicotine have reduced the number of aphids in most orchards. However, they are gradually increasing and may be a serious factor. Distribution seems general.

Ohio H. A. Gossard (May 20): The rosy apple aphid is scarce about Wooster but it is quite plentiful in southern Ohio at Gallipolis and through that section.

Illinois W. P. Flint: This insect is not nearly as abundant as in 1923. Thus far, no cases have been found or reported where the infestation was sufficiently heavy to cause any commercial damage.

WOOLLY APPLE APHID (Eriosoma lanigerum Hausman)

Utah George F. Knowlton (May 6): Eriosoma lanigerum are again numerous enough to do damage in some orchards in this county, adults and half-grown nymphs being found in large numbers in places where the bark has been damaged.

CODLING MOTH (Carpocapsa pomonella L.)

- Massachusetts A. I. Bourne (May 24): Codling moth adults are just emerging on this date.
- Georgia O. I. Snapp (May 5): First adult moth of the season emerged here today at Fort Valley.
- Washington E. J. Newcomer (May 20): Unseasonably warm weather for the past two weeks has brought the codling moths out unusually early and in large numbers. The first moths were observed May 6 and the maximum emergence is past at this date. This bunching of the moths should make control easier than in years when cold weather delays the emergence. The first brood will doubtless be larger than usual, as the warm weather will result in more eggs being deposited. At this date a few larvae are hatching.

FRUIT-TREE LEAF-ROLLER (Cacoecia argyrospila Walk.)

- New York C. R. Crosby and assistants: Egg masses were quite abundant in Orleans County on April 28, while in this County on May 3 eggs were unusually abundant in some orchards. Eggs abundant on one orchard in Oswego County on May 3.

BUDWORM MOTH (Tmetocera ccellana D. & S.)

- New York E. P. Felt (May 26): The budworm is somewhat prevalent in apple orchards in Dutchess County.

CIGAR CASE-BEARER (Coleophora fletcherella Fernald)

- New York D. D. Ward (May 3): Not so abundant in sprayed orchards in Onondaga County as it was two years ago.

PISTOL CASE-BEARER (Coleophora malivorella Riley)

- New York H. W. Fitch (April 26): Threaten to be very injurious again this season in a young Rome Beauty orchard in Wayne County. (May 7): In Monroe County this insect was found on the buds of apple.

TENT CATERPILLAR (Malacosoma americana Fab.)

- Massachusetts A. I. Bourne (May 23): This pest is still rampant and shows no indications of any let-up. Reports from the eastern section of the State and our observations over the central counties show the pest to be much more seriously abundant than last year. In fact, in Worcester County and parts of Middlesex County practically every wild cherry has one or two tents. Reports from the extreme western counties indicate that the pest is not unusually abundant there.
- Connecticut W. E. Britton (May 16): Apple and cherry along the roadside covered with nests. On May 21 observed thousands of nests in towns of Greenwich, Stamford, Norwalk, Westport, Fairfield, Bridgeport, and Stratford.

- New York C. R. Crosby and assistants: Tent caterpillars seem to be abnormal abundant over the eastern and southeastern part of New York State this year, heavy infestations being reported from Westchester, Green Rockland, and Dutchess Counties. In the last county hatching began on April 13.
- E. P. Felt (May 26): The apple tent caterpillar is somewhat abundant in Rensselaer and Columbia Counties, very abundant in Dutchess County, and reported as much more numerous than usual in the vicinity of New York City.
- Maryland E. N. Coiy (May 14): Many cherry trees already stripped. Webs conspicuous in every county; distribution seems general.
- Ohio H. A. Gossard (May 20): A letter from Patriot, Gallia County, Ohio indicates that there is a local outbreak of considerable magnitude of the apple tent caterpillar at that point. I have not had specimens of the insects and merely judge from the contents of the letter that the insect must be the apple tent caterpillar.
- Illinois W. P. Flint (May 14): The apple tent caterpillar has been much more abundant than usual in the extreme southern part of Illinois. The caterpillars were nearly full grown on May 14. There has been no damage to sprayed orchards, most of the injury from the insect occurring on plum, cherry, and apple in woodlands and unsprayed farm orchards.
- Nebraska M. H. Swenk (April 20-May 15): Injury to plum trees by the apple tent caterpillar is beginning to develop in the northeastern corner of the State.

SPRING CANKERWORM (Paleacrita vernata Peck)

- Maine E. M. Patch (May 23): At Monmouth this insect is reported as being about 6 mm. long at present.
- New York G. E. R. Hervey (May 7): Larvae were observed in Dutchess County for the first time.

TUSsock MOTH (Hemerocampa leucostigma S. & A.)

- Indiana J. J. Davis (May 24): During the past month three inquiries from widely separated localities were received about the tussock moth on apple. Each inquiry was accompanied by egg masses collected on apple. These are unusual for Indiana as we receive few inquiries about this insect in apple orchards.

APPLE RED BUG (Heterocordylus malinus Reut.)

- Massachusetts A. I. Bourne (May 23): The apple red bug is about as abundant as last year. It began to make its appearance during the first week of the month in this region.

APPLE LEAFHOPPER (Empoasca mali LeB.)

- Massachusetts A. I. Bourne (May 23): Our attention was called to the apple leafhopper in the orchards just south of Amherst, where last year the infestation was very heavy. A visit to these orchards on the 22d indicated that there was a probability of a very severe infestation this season. Where nicotine had not as yet been used in any of the sprays, it was very common to find 10 or a dozen nymphs of the hoppers to a leaf; in some cases as many as 30 or 40. These small leaves, scarcely an inch in width, were already beginning to show the silvered stippling which results from the feeding of these insects.
- New York A. B. Buchholz (May 10): Many leafhopper eggs have been observed on apple.
- Maryland E. N. Cory (May 14): The largest and earliest outbreak of apple leafhoppers I have ever noticed is now in progress. They are mostly in very early instars in the locality of Brooklyn. (May 17): From 2 to 15 first and second instar nymphs present on nearly every leaf on the lower portion of the tree at Smithsburg.
- Ohio T. H. Parks (May 20): Newly hatched leafhoppers are becoming common on the apple foliage. Bloom fall occurred one week ago (May 13).

SAN JOSE SCALE (Aspidiotus perniciosus Comst.)

- Massachusetts A. I. Bourne (May 23): Although reports vary from individual orchards, yet careful observers are beginning to be convinced that the scale is gradually gaining in abundance.
The county agent for Franklin County reported that the San Jose scale is more prevalent throughout that general section than he has seen it for several years.
- New York C. R. Crosby and assistants: Reports from the eastern part of the State and from the fruit belt of the western part of the State indicate that the San Jose scale is moderately abundant throughout the State, though not serious in well-cared-for orchards.
- North Carolina Franklin Sherman (May 26): Beginning with 1915 the complaints were far less than they had been previously and this continued to the extent that from 1918 to 1923 the complaints were very few. Even at present it is still at low ebb in number of complaints; but some of the reports received, and field consultations and inspections also, indicate that the San Jose scale is staging somewhat of a "come-back"; not so severe perhaps as seems to be indicated in some other States, but noticeable.
- Ohio H. A. Gossard (May 20): The San Jose scale was received on March 21 from Forest on apple; (March 19): From Haydenville on peach. (April 1): From Fredericksburg on fruit trees and from West Liberty on apple. (April 3): From Akron on apple.

- Wisconsin E. L. Chambers (May 15): New infestations of the San Jose scale have been found recently in Racine, Kenosha, and Ozaukee Counties not previously reported. They are as follows: Cedarburg in Ozaukee County; North Cape, Waterford, Burlington, and South Racine in Racine County; Salem in Kenosha County.
- Washington E. J. Newcomer (May 20): The San Jose scale was much more numerous on apples and pears last fall than for many years. As a result, the dormant spray was more generally and more carefully applied this spring than usual. The use of oil sprays was quite general, about 15 cars of oil and prepared oil sprays being sold in the Yakima Valley.

OYSTER-SHELL SCALE (Lepidosaphes ulmi L.)

- Massachusetts A. I. Bourne (May 23): The oyster-shell scale is another species along with the San Jose which has here and there been returning to abundance enough to be causing local injury.
- New York K. E. Paine (April 26): A considerable amount of infestation has been observed this year in Chautauqua County.
- Indiana H. F. Dietz (May 23): The eggs of the oyster-shell scale, all forms have not yet begun to hatch.

SCURFY SCALE (Chionaspis furfura Fitch)

- New York K. E. Paine (April 26): In Chautauqua County a few trees are abundantly infested.
- Ohio H. A. Gossard (May 30): On April 1 this insect was received from West Liberty on apple.

TREEHOPPERS

- Washington E. J. Newcomer (May 20): Stictocethala pacifica Van Duzee is apparently much commoner than last year. It has been increasing rapidly, as no injury can be found that was made more than three years ago, and at present it is found in almost all orchards. Ceresa borealis Fairm. is also common, though it was not noted last year.

ROUNDHEADED APPLE-TREE BORER (Samerda candida Fab.)

- Ohio T. H. Parks (May 20): This insect is calling itself to the attention of fruit growers in Vinton County. Complaints of damage have been received.

NEW YORK VERVIL (Ithycerus noveboracensis Forst.)

- Illinois W. P. Flint: Adults of this beetle were quite abundant in western Illinois and have caused considerable damage in young orchards. Adults first appeared on May 2 in orchards 35 miles north of St. Louis.

APPLE FLEA-WEEVIL (Orchestes pallicornis Say)

Michigan

R. H. Pettit (May 14): I visited the Scudder orchards at Augusta, Mich., on Sunday and examined 140 Spy trees which had recently been sprayed for the apple flea-weevil. Mr. Shutts, the man in direct charge of this orchard, tells me he sprayed on Friday, at which time there were about five flea-beetles to each bud, with arsenate of lead, 2 pounds to 50 gallons of water, using 300 pounds pressure and a gun which distributed the spray liberally. His success was very great indeed. On Sunday when we examined these trees there were very few beetles present; enough of course to require another spray, perhaps more after a time, but over 99 per cent certainly must have been killed. The flea-weevil in this orchard confines its work almost altogether to Spies. Other varieties close by were hardly touched, except as the beetles were driven out of the Spies by the spray.

IMBRICATED SNOUT-BEETLE (Epicaerus imbricatus Say)

Missouri

L. Haseman (May 22): The imbricated snout-beetles are always more or less abundant in Missouri, but attracting particular attention at this time on young fruits in northwestern Missouri counties.

EUROPEAN RED-MITE (Paratetranychus pilosus C. & F.)

Massachusetts

A. I. Bourne (May 23): Began hatching on the 7th and 8th of May. Contrasted with last year, the hatching was rather long drawn out, occurring over a period of nearly two weeks. Last year practically the complete hatch took place within a matter of three or four days. One of our correspondents from Plymouth County states that one tree in Brockton had its small branches so reddened by the overwintering eggs as to be noticed from the street 100 feet or so away.

Washington

E. J. Newcomer (May 20): The European red-mite is commoner and more widespread than last year. In orchards sprayed with dormant lime-sulphur, as high as 200 individuals per leaf were observed on May 1 on the oldest leaves of apple and pear, a condition not noted last year. Orchards sprayed with dormant oil sprays are not badly infested. Winter eggs hatched about April 15. At this date oviposition by the first brood of adults is about over. The eggs from this brood began hatching May 13 and on account of the warm weather a few second-brood adults are present now.

PEAR

PEAR THRIPS (Taeniothrips inconsequens Uzel)

New York

C. R. Crosby and assistants: The pear thrips over the eastern part of the fruit belt is reported as generally below normal in abundance, except for reports of considerable injury in a few orchards in Greene County, despite the backward season.

COTTONY MAPLE SCALE (Pulvinaria vitis L.)

Washington E. J. Newcomer (May 20): The cottony maple scale has been found in several orchards of Winter Nelis pears. It also attacks the Anjou, but does not thrive on the Bartlett. It succumbs readily to lubricating oil emulsions.

PEAR PSYLLA (Psylla pyricola Foerst.)

Massachusetts A. I. Bourne (May 23): Pear psylla eggs began to be noted during the very last days of April, and about the first of May practically all of our pear blocks here at the college were being quite heavily infested with eggs of this species. It was possible, in many cases, to count as many as 50 or 60 eggs to a short fruit spur. The hatching of the nymphs began the 10th of the month. This was somewhat later in the eastern part of the State, and an approximate figure would be around the 12th to 15th. The insect was rather more abundant than last year.

New York P. J. Parrott (May 5): Oviposition of this insect is the heaviest ever seen in the locality of Geneva.

C. R. Crosby and assistants: The pear psylla is reported as abnormally abundant from practically the entire apple growing section of the State, extending from Genesee to Oswego Counties and southward to Long Island. In some orchards in Monroe County as high as 20 to 30 eggs were found on practically every spur. The belt of heaviest infestation seems to be in Monroe, Ontario, and Yates Counties. Egg laying was well under way in the southern part of the State the first week in May, and in the northwestern part of the State the second week.

Delaware J. F. Adams (May 15): Very numerous at Dover and apparently causing considerable injury.

PEAR-LEAF BLISTER-MITE (Eriophyes pyri Pgst.)

Ohio H. A. Gossard (May 14): The pear-leaf blister-mite was received from Litchfield on pear leaves.

Oregon Don C. Mote (May 2): Reported from Kerry, Columbia County, attacking pear leaves.

PEACH

IMBRICATED SNOUT-BEETLE (Epicaerus imbricatus Say)

Georgia C. P. Nelson (April 16): Damage slight in the vicinity of Calhoun, first report of season from Atlanta, and reported doing slight damage on the same host at Crust, Ga.

NEMATODES

Mississippi J. E. McEvilly (May 8): Thirty-two out of fifty-two peach trees in two-year-old orchard killed by nematodes. Root systems show heavy infestation.

MILLIPEDES

Ohio H. A. Gossard (May 20): On April 28 millipedes, apparently of the family Julidae, were received from Massilon, where they were said to be killing young peach trees by clustering and feeding on the roots. The same millipedes were received May 10 from Carrollton, where they were feeding on garden crops, and on May 15 we received them from the Farm Bureau of Cleveland with no accompanying data.

ORIENTAL FRUIT MOTH (Laspeyresia molesta Busck)

Pennsylvania S. W. Frost (May 19): The oriental fruit moths commenced emerging at Arendtsville, Pa., on May 5. On May 16 the maximum emergence occurred. The first eggs were laid on May 18.

Delaware C. O. Houghton (May 14): A moth, which I have identified as this species, was taken on the evening of May 14 as it was hovering about a small peach tree. This is the first I have seen of this species here, but I now believe that considerable of the injury to peach terminals last year, and which was attributed to *Anarsia*, was really by this species.

SAN JOSE SCALE (Aspidictus perniciosus Comst.)

Georgia Oliver I. Snapp (May 16): Cold weather and spraying killed out the full-grown individuals last winter. The few half-grown scales which did survive the winter have not yet reached maturity, and consequently no breeding has taken place yet this year. The San Jose scale infestation in Georgia this year is the lightest that I have seen for years.

Mississippi J. E. McEvilly (May 8): This pest is prevalent in old orchards in this section. Control and clean-up measures practiced in certain localities.

AMERICAN GRASSHOPPER (Schistocerca americana Drury)

Georgia Wm. F. Turner (May 10): On many trees from 50 to 75 per cent of the peaches are scarred from grasshopper feeding, severe enough so that most of them will have to go into the cull pile at harvest time. A 500-acre field close by has been "lying out" for 2 years. Would offer an excellent breeding place.

APHIDIDAE

South Carolina J. C. Berley (May 12): Aphids have been very abundant on shrubbery, peach, and plum.

GREEN PEACH APHID (Myzus persicae Sulz.)

Maryland E. N. Cory (May 10): General distribution throughout 2,000-tree orchard at Hancock. Pink stem-mothers scarce. (May 17): At Smithsourg there is a light infestation.

PEACH-TWIG MOTH (Anarsia lineatella Zell.)

Texas F. C. Bishopp (April 15): The peach-twig moth is abundant on most peach trees at this time. In some instances dozens of the terminal twigs are dying as a result of their attack. (April 20): Most of the larvae appear to be full grown and active work has largely ceased.

PEACH BORER (Aegeria exitiosa Say)

Georgia Oliver I. Snapp (May 15): Due in all probability to the large amount of paradichlorobenzene used in Georgia during the last three years the general peach borer infestation has been greatly reduced in the State.

SHOT-HOLE BORER (Scolytus rugulosus Ratz.)

Georgia Oliver I. Snapp (May 16): Winter injury has killed or devitalized some peach trees in all parts of the peach belt this year, and now orchard bark-beetles are to be found in many of these trees.

PLUM CURCULIO (Conotrachelus nenuphar Hbst.)

Georgia W. C. McCarrell (April 22): First specimens sent to my office of this insect on this date attacking peach.

Oliver I. Snapp (May 16): Developments since last report show that the curculio infestation at the present time in the Georgia Peach Belt is apparently lighter than at any time since 1918. The late, cold spring caused the beetles to remain in hibernation later than usual, and consequently they came out in greater numbers during a short period the middle of April than was recorded for any period during the 1923 season; however, the peach "drop" examinations show that in the majority of orchards the curculio infestation at the present time is only about one-half as heavy as it was a year ago, when it was lighter than it has been for years. This remarkable reduction in the infestation has resulted from the vigorous curculio suppression campaign that has been waged in Georgia since 1920.

Mississippi J. E. McEvilly (May 7): Work of this pest is very noticeable in this section. Trees laden with fruit this season severely damaged by punctures of this pest.

CAMBIUM CURCULIO (Conotrachelus anaglypticus Say)

Georgia Oliver I. Snapp (May 10): This species of curculio is apparently more common in Georgia peach orchards this year than usual. Some mornings while jarring for C. nenuphar 10 per cent of the Conotrachelus captured were anaglypticus.

CHERRY

FRUIT-TREE LEAF-BEETLE (Syneta albida Lec.)

Oregon Don C. Mote (April 29): One or more scars or small cavities chewed out of the side of the small green cherry. This injury is noticed as soon as the shucks fall.

A CASE-BEARER (Coleorhiza sacramenta Heinr.)

California Theodore D. Uroahns (April 24): This small case-bearer, after having been present in small numbers for several years, has suddenly developed in destructive numbers and is causing severe defoliation and loss of crop amounting to at least 50 per cent of the fruit in infested orchards of one locality.

CHERRY APHID (Myzus cerasi Fab.)

New York A. B. Buchholz (April 26): In Columbia County these insects are on the sweet-cherry buds in small numbers.

Ohio H. A. Gossard (May 20): The black cherry aphid has been noticed rather numerous on sweet cherry at Wooster, perhaps a majority of the leaves on some trees being curled.

Nebraska M. H. Swenk (April 20-May 15): The black cherry aphid was first reported as present in injurious numbers in Lancaster County on May 15.

PLUM

PLUM CURCULIO (Conotrachelus nenuphar Hbst.)

Massachusetts A. I. Bourne (May 23): Although constant watch has been kept for the appearance of the plum curculio throughout our blocks of plum and apple orchards, particularly those bordering woodland here at the college, no specimens have as yet been found.

Connecticut Philip Garman (May 22): Reported from New Haven County. Apparently much less abundant as compared with an average year.

New York C. C. Wagoner (May 5): In Ulster County an adult was observed on this date.

South Carolina J. A. Berly (May 12): Has appeared very abundantly on plums within the past week or two.

Illinois W. P. Flint: Adults of the plum curculio were taken feeding on apple in Western Illinois on May 8. They are apparently more abundant than usual, considerable damage having been done to fruit within one week of the time the petals fell.

WESTERN SHOT-HOLE BORER (Scolytus rugulosus Ratz.)

Oregon Don C. Mote (April 29): One prune grower in Salem district reports 300 trees out of 1,500 infested. An apple grower reports all his 2-year-old apple trees infested. The trees he says are dying. Beetles apparently about ready to emerge from burrows. A few had already emerged. At Albany, April 30, of 2,000 prune trees one-third were infested.

BROWN PLUM APHID (Lysteroneura setariae Thos.)

Georgia O. I. Snapp (May 7): Very numerous on unsprayed plum trees at Fort Valley.

RASPBERRY

RED-NECKED CANE BORER (Agrilus ruficollis Fab.)

Indiana J. J. Davis (May 24): The red-necked cane-borer was reported May 2 as injuring raspberry at Evansville.

GRAPE

GRAPE MEALYBUG (Pseudococcus maritimus Ehrh.)

Michigan R. H. Pettit (May 14): The grape mealybug is very plentiful in the grape belt of Michigan. Strong lime-sulphur killed practically all that were hit but nothing else as yet has seemed to be effective. Unfortunately the season is advancing so that strong lime-sulphur can no longer be used.

GRAPE LEAFHOPPER (Erythroneura comes Say)

New York K. E. Paine (April 26): Does not seem to be so very numerous in some vineyards where this pest was very serious last year. Practically none can be found in Chautauqua County.

GRAPE FLEA-BEETLE (Haltica chalybea Ill.)

Pennsylvania S. W. Frost (May 19): On May 5 adults were found abundant mating on grape.

Delaware C. O. Houghton (May 2): These beetles are just beginning to appear and are quite numerous for Newark, where but few grapes are grown.

Indiana J. J. Davis (May 24): The grape-vine flea-beetle injuring buds at Mishawaka May 12.

Kansas J. W. McColloch (May 1): Adults were feeding on opening buds and doing considerable damage.

Nebraska M. H. Swenk (April 20-May 15): In the vineyards of Johnson and Otoe Counties there developed between May 6 and May 13 a considerable infestation with the grape-vine flea-beetle. By May 15 similar injuries were being reported from Douglas County. According to the reports, rather serious injury is taking place.

CURRENT

A WEEVIL (Melanophus sordidus Horn)

California E. O. Essig (April 29): Stripped the bark from 2 acres in one field. Has never before appeared as a pest and seems to be a native species.

CURRENT APHID (Myzus ribis L.)

Massachusetts A. I. Bourne (May 5): In one small planting here in town the lice were just beginning to cause the reddish discoloration of the leaves previous to the forming of the distorted "pockets." Indications in this particular case were of a rather heavy infestation.

Ohio E. W. Mendenhall (May 16): Currant aphids are bad on currant bushes in sections in southwestern Ohio. Underspray with nicotine solution seems to be effective.

IMPORTED CURRENT WORM (Pteronidea ribesi Scop.)

Delaware C. O. Houghton (May 2): Adults are just beginning to appear around the currant bushes. They are considerably later than usual and in smaller numbers.

Nebraska M. H. Swenk (April 20-May 15): The first reports for the year of injury to currants and gooseberries by the imported currant worm originated from Lancaster County on May 15.

PECAN

PECAN SPITTLE-BUG (Clastontera obtusa Say)

Georgia J. B. Gill (May 23): The infestation of the pecan spittle-bug on pecan and hickory trees is the worst that has been observed in years.

FALL WEBWORM (Hyphantria cunea Drury)

Georgia J. B. Gill (May 23): Many webs of the fall webworm are already showing up on pecan trees, as well as on many kinds of forest and shade trees. It is expected that the second-generation larvae will appear in such numbers as to cause serious defoliation in pecan orchards and nurseries.

PECAN PHYLLOXERA (Phylloxera devastatrix Perg.)

Texas

F. L. Thomas (May 21): A rather unusual number of samples of the pecan phylloxera have been received from 15 counties scattered over the eastern part of Texas and from the Coast to the Red River. We have not had opportunity to investigate any of these occurrences, but they are certainly causing alarm to the various growers.

PECAN BUD-MOTH (Proteopteryx bolliana Sling.)

Georgia

J. B. Gill (May 23): The pecan bud-moth is quite prevalent this year and is reported as occurring in injurious numbers on pecan nursery stock.

PECAN NUT CASE-BEARER (Acrobasis hebescella Hulst)

Georgia

J. B. Gill (May 23): The pecan nut case-bearer is showing up in various sections of the pecan belt. The moths have been emerging for the past ten days and at this writing egg deposition on the nut clusters is taking place in commercial pecan orchards of this immediate region. It is too early to determine the extent of the infestation, but doubtless there will be considerable damage to the nut crop from the attacks of this insect.

Oklahoma

E. E. Scholl (May 17): A trip to the southeastern and northeastern parts of the State revealed the fact that in the Counties of Carter, Johnston, Marshall, and Bryan the pecan case-bearer is doing a great deal of damage. The moths are just now emerging and the prospects are that we will have a very heavy crop of worms infesting the nuts within the next week or ten days. A number of spraying demonstrations in which the lime and arsenate of lead are to be used will be conducted.

PECAN LEAF CASE-BEARER (Acrobasis nebulella Riley)

Georgia

W. F. Monroe (April 30): J. R. Mosely, of Macon, Ga., reported this insect doing rapid damage to young growth at this place, while D. H. Weeks reported it from Nichols, Ga.

J. B. Gill (May 23): The larvae of the pecan leaf case-bearer passed the winter quite successfully and have been doing considerable damage to the buds and foliage of pecan trees. In some orchards in South Georgia and North Florida the damage has been so severe that yields will be greatly reduced.

MAY-BEETLES (Phyllophaga spp.)

GENERAL

J. B. Gill (May 23): We have had reports of serious May beetle damage to pecan buds and tender shoots from pecan growers in Georgia, Alabama, and Mississippi. The species of May beetles responsible for the damage have not as yet been determined.

Georgia

Wm. F. Turner (May 10): Adults feeding on 2-year-old trees at night. Many have been nearly defoliated. Also cutting new shoots. Much land lying out in this section. Wonder if it helps to account for abundance of these insects.

Mississippi

J. E. McEvilly (May 4): The tender foliage of 1 and 2 year old pecan trees damaged by this pest. Apparently can be controlled with arsenical sprays.

MAGNIFICENT COSSID (Cossula magnifica Stkr.)

Georgia

Oliver I. Snapp (May 10): This cossid is now emerging from small pecan trees which have been heavily infested at Fort Valley.

CITRUS

APHIDIDAE

Florida

P. W. Mason (May 27): An aphid, not yet definitely determined, is doing serious injury to citrus trees in Florida. The center of infestation appears to be at or near Tampa and the aphid has spread north to Orange County and south at least as far as Fort Myers. It seems to have been present around Tampa for about one year. The most severely infested varieties of fruit are temples, kings, and tangerines. Oranges are fairly heavily attacked, while grapefruits, on the whole, are only slightly so. One grove of grapefruits, however, was observed to be heavily infested. Owing to the severity of curling of the leaves, no successful commercial control has yet been found. Parasites, predaceous insects, and fungous diseases are at work but have not made sufficient headway to hold the species in check. The most recent estimate, from reliable sources, is a loss of 30 per cent of this year's crop.

SOUTHERN FIELD-CROP INSECTS

COTTON

COTTON FLEA (Psallus seriatus Reut.)

Texas F. L. Thomas (May 21): Complaints regarding the cotton flea, one of which proved to be a coccinellid, are beginning to be received.

COWPEA CURCULIO (Chalcodermus aeneus Boh.)

South J. A. Berly (May 12): This is the first injury we have had of
Carolina this insect for this season. They appear practically every spring and do slight damage to young cotton quite often confused with the boll weevil.

CORN ROOT APHID (Anuraphis maidi-radicis Forbes)

South J. A. Berly (May 12): We have had only one report this season
Carolina in regard to the cotton root louse.

BOLL WEEVIL (Anthonomus grandis Boh.)

North Franklin Sherman (May 26): First specimens out of hibernation
Carolina were captured April 15, two specimens in different counties in warmer region of the State. The next similar finding was April 25. These three findings were before cotton was up; one was caught on the back of a man in a field planting cotton, the other two were taken from peach trees incidental to curculio work.

The first specimen found on young cotton was captured "on or about May 14" in the warmer part of our State (Scotland County) and was mailed May 20, with two others, all three being alive when it was received.

The above dates (mid-April) for first findings out of hibernation are approximately the same as in 1923, but finding weevils on young cotton on May 14 is about a week earlier than the first similar record in 1923.

Mississippi J. E. McEvilly (May 8): Several thousand pounds of calcium arsenate and dusting equipment bought by the farmers in this section to combat ravages of the weevil this season.

Texas B. R. Coad (May 1): The boll weevil was reported on April 23 as plentiful on young cotton in the Rio Grande Valley in the vicinity of Pharr, Tex.

F. L. Thomas (May 21): The hibernation work with the boll weevil is still being carried on, but to date only 10 weevils have emerged out of over 5,000 which were placed in the cages.

A COTTON STAINER (Dysdercus andreae L.)

Porto Arthur H. Rosenfeld (May 18): I made rather an interesting
Rico observation on the 12th inst. at Hacienda Isidore, near Santa Isabel,

on the South Coast, Isidoro being one of the outlying colonies of the Central Aguirre. On a previous trip about a month ago Mr. Wolcott and I had noticed the cotton stainer, or "union" as it is called here, quite abundant on volunteer cotton trees in that section and on this trip I noticed the adults clustered in large numbers on small pieces of the silk of the Caiba on the ground, at times there being from forty to a hundred insects on a small piece of fiber. Incidentally, the chickens were busily proving their interest in this particular insect. Mr. Wolcott tells me that he has never noticed these stainers on this Caiba fiber before, and therefore the observation may have some interest, as one of the Trinidad publications some time ago recommended the use of bunches of this fiber around cotton plants as an attractant for the *Dysdercus* - the species found at Isidoro was andreae Linnaeus, by the way - which could afterwards be collected and destroyed by dropping them into kerosene or fire.

CARABID BEETLE (Anisotarsus nitidinennis, Lec. det. Schwarz)

Texas

F. C. Bishopp (May 24): This carabid beetle was found in great numbers in cotton fields in the vicinity of Dallas during the middle of May. Dozens of the beetles were often found about an inch under the soil immediately surrounding the germinating cotton, and they appeared to be gnawing on the cotyledons as they unfolded. The stand of cotton in certain fields was seriously damaged.

TOBACCO

TOBACCO THRIPS (Frankliniella fusca Hinds)

Florida

F. S. Chamberlin (May 7): Heavy rains this month have practically eliminated the infestation of the tobacco thrips at Quincy.

SOUTHERN GREEN STINK-BUG (Nezara viridula L.)

Florida

F. S. Chamberlin (May 17): Very few stink-bugs have been observed on tobacco planted around Quincy this season. It appears that the low temperatures last winter reduced the numbers of this insect to a marked degree.

TOBACCO BUDWORM (Heliothis virescens Fab.)

Georgia

F. S. Chamberlin (May 1): Tobacco fields in this region are heavily infested with this pest at Tifton.

GREEN JUNE BEETLE (Cotinis nitida L.)

Tennessee

A. C. Morgan (April 29): The larvae of the grubworm beetle is quite injurious at present on tobacco beds which were sown in the old seed beds of last year. It is becoming more customary to sow beds in the same situation year after year and protect them during the summer with a covering of manure, straw, or tobacco stalks. This covering has proven attractive to the beetle for the deposition of its eggs and remedial measures have been necessary upon a large number of these second-year beds.

TOBACCO SPLITWORM (Phthorimaea operculella Zell.)

Florida F. S. Chamberlin (May 8): Slight damage is being caused by this insect in fields of bright leaf tobacco.

TOBACCO HORNWORM (Protoparce sexta Joh.)

Florida F. S. Chamberlin (May 6): The tobacco hornworm is making its first appearance in tobacco fields this season.

GARDEN SLUG (Agriolimax agrestis L.)

Florida F. S. Chamberlin (April 30): A slug, apparently the garden slug, has been found doing slight damage to newly set tobacco at Quincy.

F O R E S T A N D S H A D E - T R E E I N S E C T S

MISCELLANEOUS FEEDERS

PERIODICAL CICADA (Tibicina septendécim L.)

Illinois W. P. Flint: Nymphs of the periodical cicada were found about 5 or 6 inches below the surface of the soil in southern Illinois on May 15.

Mississippi R. W. Harned (May 27): Brood XXIII of the periodical cicada is now appearing in large numbers throughout a large part of the State. So far, specimens have been received from Carroll, Calhoun, Benton, Bolivar, Copiah, DeSoto, Holmes, Lafayette, Leflore, Madison, Marshall, Rankin, Sunflower, Yalobusha, and Yazoo Counties.

GIPSY MOTH (Porthetria dispar L.)

Massachusetts A. I. Bourne (May 23): The gipsy moth began hatching about the middle of the month. On the whole they are finding them rather fewer than last year. In western Middlesex County Mr. Farrar reports finding only 20 egg masses in 1,200 young apple trees.

BROWN-TAIL MOTH (Euproctis chrysorrhoea L.)

Massachusetts A. I. Bourne (May 23): In Essex County Mr. Stevens, who has been connected with the clean-up work, reports the pest very generally spread throughout that section, but very few in number both in orchards and along the highways.

In Middlesex County the pest in orchards seems to be practically extinct, Mr. Farr reporting from the town of Lincoln finding only six or seven in a block of nearly 2,000 trees.

In the northern part of Worcester County the pest is practically wiped out, except for wild growth and along the highways. In the southern part of the county one grower reports finding approximately only one nest to 1,000 trees in his orchards, and from his observation believes this is typical of that general locality. In fact, many growers in that section have come to regard that as having reached a negligible stage as far as

being a pest which demands their attention. This is borne out by Mr. Davenport, the President of the State Fruit Growers' Association, who reports that in his orchard in the town of Grafton he has failed to find any brown-tail caterpillar nests thus far this season.

TERRAPIN SCALE (Lecanium nigrofasciatum Perg.)

Missouri L. Haseman (May 22): The terrapin scale is attracting much attention in Carthage and other southwestern Missouri cities, on shade trees largely.

BAGWORM (Thyridopteryx ephemeraeformis Haw.)

Ohio H. A. Gossard (May 20): On April 11, bagworm cocoons were received from New Vienna on plum.

Missouri L. Haseman (May 22): Bagworms are just beginning to emerge in central Missouri and are practically threatening to foliage and fruit in some sections of southwestern Missouri. Recommendations on the use of arsenical sprays will undoubtedly help materially with this season's epidemic.

BOXELDER

BOXELDER APHID (Periphyllus negundinis Thos.)

Nebraska M. H. Swenk (April 20-May 15): An outbreak of the boxelder aphid is reported from Greeley County.

ELM

EUROPEAN ELM SCALE (Gossyparia spuria Modeer)

Wisconsin E. L. Chambers (May 15): Several elms killed by this insect. Many weeping and American elm trees practically plastered with the scale, (underside of limbs).

ELM COCKSCOMB GALL (Colopha ulmicola Fitch)

Missouri L. Haseman (May 22): More abundant on young wild elms than I have ever seen them before.

ELM SAWFLY (Cimbex americana Leach)

Massachusetts A. I. Bourne (May 23): The elm sawfly was first observed on May 18 and 19, when the adult flies were found ovipositing on the small leaves of Camperdown elm here on the campus. This date is approximately the same as that on which the first specimens were noted a year ago.

LOCUST

LOCUST BORER (Cyllene robiniae Forst.)

New York E. P. Felt (May 26): The locust borer grub work is showing up very conspicuously on locusts in Dutchess County.

LARCH

LARCH CASE-BEARER (Coleophora laricella Hubner)

Connecticut W. E. Britton (May 13): Larvae mining the new leaves at Avon.

MAPLE

GLOOMY SCALE (Chrysomphalus tenebriosus Comst.)

Georgia Roy Rogers (April 24): Severe infestation at Boxley.

OAK

OAK LECANIUM (Lecanium quercifex Fitch)

South Carolina J. A. Berly (May 1): Appearing in Anderson County on wateroak as usual. Very abundant in some localities.

Georgia M. B. Bridges (April 23): Severe injury is reported from Woodland and Barnesville attacking oak, and from Powder Springs, attacking water oak.

Oliver I. Snapp (April 29): An oak tree at Woodbury is very heavily infested. Lubricating-oil emulsion is being used.

INSECTS ATTACKING GREENHOUSE
AND ORNAMENTAL PLANTS

CHRYSANTHEMUM

CHRYSANTHEMUM GALL-MIDGE (Diarthronomyia hypogaea F. Loew)

Ohio E. W. Mendenhall (May 7): The chrysanthemum gall-midge has been quite bad during the year at Springfield, but we have them under control quite well now by using nicotine-sulphate solution and examining the plants quite often, and destroying infested plants.

Wisconsin E. L. Chambers (May 15): The chrysanthemum midge stages an annual fight in greenhouses both at Madison and Milwaukee but never seems to be a serious pest elsewhere in the State.

ROSE

SOFT SCALE (Coccus hesperidum L.)

Georgia J. H. Pressley (May 25): Infestation by this insect severe to roses at Albany.

A SCALE (Lecanium sp.)

- Oregon Don C. Mote (May 10): This insect on rose at Corvallis is Lecanium sp., probably frosted Lecanium. Specimens covered with mealy wax, giving the appearance of a mold spot on the stem of the rose.

MISCELLANEOUS

HEMISPHERICAL SCALE (Saissetia hemisphaerica Targ.)

- Wisconsin E. L. Chambers (May 15): There seems to be an unusually large number of inquiries from various parts of the State for the identification and control of this pest on fern.

CITRUS MEALYBUG (Pseudococcus citri Risso)

- Wisconsin E. L. Chambers (May 15): For the first time this mealybug has been found to be a serious pest of primroses in the Milwaukee section.

EWING SCALE (Toxneyella liriodendri Gmel.)

- Georgia R. E. Power (March 19): Infestation severe on banana shrub at Dixie. (April 3): Severe infestation on banana shrub reported by Mrs. Pierre Montford at Metcalf. It was stated by former entomologist here to be quite severe and to cause considerable damage.

OYSTER-SHELL SCALE (Lepidosaphes ulmi L.)

- Minnesota A. G. Ruggles (May 15): The oyster-shell scale seems to have become more virulent the last few years in hedges of cotoneaster. Even buckthorn had been killed in spots.

APHIDIDAE

- Texas F. C. Bishopp (April 21): The plum and rose aphids are rather more abundant than usual at this time of the year at Dallas and vicinity. Practically all rose bushes are heavily infested and spraying is being very generally practiced. Aphids are very abundant on all sorts of flowers, vegetables, shrubs, and trees.

- Indiana H. F. Dietz (May 23): As a general observation on various species of plant-lice attacking ornamental plants, I would say that these are far less abundant than I have seen them at the same time of the year for the past five years.

STALK BORER (Panopoma nitela Guen.)

- Virginia Rex Hunt (May 26): Two of these second-instar larvae were found in a Steeple bush plant (Spiraea pomertorum) in my yard at Clarendon. They were in new growth.

CYCLAMEN MITE (Tarsonemus pallidus Banks)

Wisconsin E. L. Chambers (May 15): The past season was just a little harder on some of the cyclamen growers than usual. The growers feel lucky if they do not have to throw out more than 10 per cent of their crop during the holiday markets at Madison and Milwaukee.

LEAFHOPPERS (probably Empoa rosae L.)

Connecticut M. P. Zappe (May 22): Leafhoppers, probably Empoa rosae L., are attacking apple and rose at Milford, Hamden, and Cheshire. The weather has been cold and rainy. The abundance of insects is more than last year. Syrphid larvae are scarce and very few insects have been destroyed.

IVY SCALE (Aspidiotus hederae Vallot)

Georgia H. K. Shirley (January 24): Slight damage done by this scale to Croton sp.

TEA SCALE (Fioriniatheae Green)

Georgia O. C. Boyd (January 23): This scale is covering the leaves and stems of Camellia japonica at Thomasville.

FICKLE MIDGE (Sciara inconstans Fab.)

Oregon Don C. Mote (May 6): Larvae were found attacking roots and crown of calla lily in garden soil used for growing household plants at Portland.

I N S E C T S A F F E C T I N G M A N

A N D D O M E S T I C A N I M A L S

MAN

ROCKY MOUNTAIN SPOTTED FEVER TICK (Dermacentor venustus Banks)

Colorado F. C. Bishopp (May 24): At least two cases of Rocky Mountain spotted fever have occurred in northern Colorado this spring. Both of these were in regions where the disease has rarely or never occurred before.

CHIGGERS (Trombicula tlalzahuatl Murray)

Texas F. C. Bishopp (May 24): Chiggers were first observed in the vicinity of Dallas on May 5, and became very annoying to man by the middle of the month.

RAT MITE (Linonyssus bacoti Hirst)

Texas

F. C. Bishopp (May 24): This mite has been causing some annoyance in offices and stores in Dallas during this spring. It is expected that the campaign which is now being staged against rats will effect a large degree of control.

CATTLE

SCREWWORM (Chrysomya macellaria Fab.)

Texas

F. C. Bishopp (April 9): The first specimens of screwworm flies were observed in Dallas on this date. They constituted a very small percentage of the fly population about the packing houses. (April 17): There has been a very decided increase in the number of screwworm flies since the last date when they reached approximately 8 per cent of the total catch in traps. (May 24): Screwworm flies increased in abundance considerably throughout the month of May, despite the comparatively cool, dry weather. Practically no cases of screwworm infestations of livestock were reported, however, up to this date.

D. C. Parman (May 23): The adult fly has increased very little during the month at Uvalde, but cases of worms have increased rapidly during the last few days. Goats and sheep; 13 cases per 1,000; loss during the month approximately 8 head per 1,000, mostly kids and lambs. Cattle and horses; in canyons, 3 cases per 1,000; in lower country, 47 cases per 1,000. Loss in calves 80 per 1,000, all calves infested.

HORNFLY (Haematobia irritans L.)

Texas

F. C. Bishopp (April 10): Hornflies began to appear in annoying numbers about this date. (May 24): While hornflies have increased considerably during May, they are not as abundant as usual at this time of the year, probably owing to the comparatively dry spring which has been experienced in the vicinity of Dallas.

D. C. Parman (May 23): The horn fly has increased to some extent in all of the territory during the month except in the strip of territory about 15 miles wide south of town in which the heavy hail fell in April and a very heavy rain on May 22. It is rare to see an adult; other places from 50 to 2,000 flies on cattle.

OX WARBLE (Hypoderma lineatum DeVill.)

GENERAL

F. C. Bishopp: Mr. W. E. Dove reports the grubs of this species to be maturing and dropping at various points in North Dakota, South Dakota, and Montana. A greater number had left the cattle

in eastern Montana than in the Red River Valley. In the vicinity of Aberdeen, S. Dak., it was estimated that 60 per cent of the larvae had emerged from the livestock.

South
Dakota

F. C. Bishopp: At Aberdeen, S. Dak., W. E. Dove reports the season fairly well advanced and some Hypoderma larvae already mature and out of the hosts on April 7.

Texas

F. C. Bishopp: Cattle grubs were rather more abundant in the vicinity of Dallas during the past winter than usual. However, warble flies were apparently no more abundant than normal. Cattle became free of all grubs about the middle of March. At San Angelo, however, O. G. Babcock found a few specimens which would not be mature for about two weeks when he examined herds on March 20.

BLOWFLIES

Texas

F. C. Bishopp (April 20): Phormia regina Meig. have been very abundant during the past month. They are now sufficiently numerous to necessitate trapping and other control measures at the packing houses. (May 24): The black blowfly is still present in considerable numbers, the development of the species favored by the cool spring. At the packing houses in the vicinity of Dallas they still outnumber C. macellaria.

D. C. Parman (May 21): Cynomyia and Calliphora disappeared. The latter part of March the change in species during the last month for a trapping period of 48 hours is as follows:

Species	April 22	May 21
<u>Chrysomya macellaria</u>	2,080	2,040
<u>Phormia regina</u>	360	17
<u>Lucilia sericata</u>	4,000	1,201
<u>Lucilia caesar</u>	2,480	400

STABLE FLY (Stomoxys calcitrans L.)

Texas

F. C. Bishopp (April): During warm periods in April stable flies have been quite annoying to dairy cattle in the vicinity of Dallas. (May 24): The stable fly has caused some annoyance to dairy stock and work animals in the vicinity of Dallas throughout this month. They are apparently no more numerous than usual.

HORSE-FLIES (

Texas

D. C. Parman (May 23): The canyon horse-fly, Tabanus rubescens Bellardi, has increased some during the month but is not yet very annoying to cattle and horses except in local areas where two to five flies are usually on most cattle. The unusual occurrence is that the flies are as numerous as far south as Carizzo Springs as they are in the mountains, and the mountain infestation is

unusually low for the season. An occasional specimen of Tabanus atratus was observed in the river bottoms south of Uvalde, May 23.

WINTER TICK (Dermacentor albipictus Pack.)

North
Dakota

F. C. Bishopp: The winter tick has been reported from a number of localities in the Northvest. They were very abundant on antelopes in the preserve in North Dakota and were thought by the warden to be responsible for the death of some of the animals.

POULTRY

CHICKEN MITE (Dermanyssus gallinae Redi)

Texas

F. C. Bishopp (April 26): Chicken mites are causing the usual amount of loss where they are not vigorously fought. (May 24): The usual amount of loss and annoyance due to this parasite is being experienced in northern Texas, but control is being accomplished more effectively through the general use of carbolineum and crude petroleum.

CHICKEN TICK (Argas miniatus Koch)

Texas

F. C. Bishopp (April): A good many reports are being received of injury and losses among fowls due to the chicken tick. Much carbolineum is being used this spring to combat this pest and the mite.

STICKTIGHT FLEA (Echidnophaga gallinacea Westw.)

Texas

D. C. Parman (May 23): The hen flea has not appeared this season in places where heavy infestations have been found in former years. It is very rare to see more than three or four specimens on a fowl at Uvalde.

CHICKEN LICE

Texas

F. C. Bishopp (April): Chicken lice are reported as causing some loss among young chicks and some flocks are heavily infested. Throughout the country many farmers and some poultrymen are using various proprietary remedies in the drinking water or feed of the fowls. These materials are mostly lime-sulphur mixtures. They are absolutely valueless but are widely advertised and thousands of dollars are being wasted upon them.

INSECTS INFESTING HOUSES AND
PREMISES

HOUSE FLY (Musca domestica L.)

Missouri

L. Haseman (April 25): This pest is beginning its early-season operation and is attracting some attention on the farms and in the smaller towns. With the first warm days it began to appear in the homes.

Texas F. C. Bishopp (April 9): Houseflies have increased materially in number in the last week at Dallas and vicinity. They are now becoming evident about homes. (April 20): Flies are more abundant and are now causing some annoyance by entering houses.

LARDER BEETLE (Dermestes lardarius L.)

Ohio H. A. Gossard (May 20): On May 9 Dermestes lardarius larvae were sent to us from Chandlersville, where the species had become somewhat numerous in a dwelling house.

TERMITES (Reticulitermes flavipes Kol. and
R. virginicus Banks)

Ohio H. A. Gossard (May 20): On May 15 we received white ants from Fremont, where they were said to be doing great damage to several dwelling houses.

Texas F. C. Bishopp (April 29): A considerable number of reports of termites infesting buildings in Dallas have come to our attention. Most of the infestations are in dwelling houses and in certain instances the damage is very heavy. (May 24): During the late winter and early spring a number of reports of damage to buildings in Dallas from termites, probably Reticulitermes virginicus Banks, have come to this office. During the latter part of April and first half of May several large flights of these insects were observed.

A POWDER-POST BEETLE (Lyctus sp.)

South Dakota H. C. Severin and A. T. Ford (May 12): All timber of cottonwood is being badly injured by powder-post beetles in Clay County, the damage being severe.

ARGENTINE ANT (Iridomyrmex humilis Mayr)

California M. R. Smith (May 10): I have recently received specimens of this pest from Monterey, which were collected there on April 5 by L. S. Slevin.

Texas F. C. Bishopp (April 22): The Argentine ant has been causing more or less annoyance as a household pest in Dallas during the last three weeks. The ants seem to be rather less abundant in houses than usual, probably because of the large number of aphids which are present and furnishing food for them.

CARPENTER ANT (Camponotus horreorum pennsylvanicus
DeG.)

Texas F. C. Bishopp: A few reports have reached this office of the large carpenter ant occurring in considerable numbers in houses. These enter the houses mostly at night.

AN ANT (Eciton schmitti Emery)

Mississippi M. R. Smith (May 20): Many specimens of this species of ant were recently taken from the water of the well at Maben Mills. The ants on falling into the water formed clumps or groups of many individuals. Where the ants decomposed a bad odor and taste were given to the water. They evidently fell into the well from the side where they were probably temporarily resting.

A WASP (Stiamus fulvicornis Rohwer)

Mississippi M. R. Smith (May 20): This species of pemphredonid wasp has been doing considerable damage to the floors of a house in Starkville. The wasps make small holes in the floors about the diameter of the head of a pin. These holes lead to nests in the flooring, in which small aphids are stored. So far as the writer is aware this is the first time that a pemphredonid wasp has ever been observed to damage floors in this manner.

ST O R E D - P R O D U C T I N S E C T S

INDIAN-MEAL MOTH (Plodia interpunctella Hbn.)

New York P. J. Chapman (April 19): A moth was received from Johnstown, which was attacking cereals.

GRANARY WEEVIL (Calendra granaria L.)

New York C. R. Crosby (April 30): A bin of 2-year-old wheat is badly infested at Campbell. Sample was received.

DARK MEALWORM (Tenebrio obscurus L.)

Kansas J. W. McColloch (May 15): This insect is very numerous in hay stored underground in one of the mines of the Vinegar Hill Zinc Company at Baxter Springs.

BLACK CARPET BEETLE (Attagenus piceus Oliv.)

Ohio H. A. Gossard (May 20): On April 7 the larvae of this beetle were received from Homerville, where they were injuring the stored seed of redtop grass.

CONFUSED FLOUR BEETLE (Tribolium confusum Duv.)

Wisconsin E. L. Chambers (May 15): About a dozen inquiries from Madison have been made as to the control of this pest and in several instances specimens were submitted.

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